I-04.01 Description of State Highway System

The State Highway System consists of the following streets and highways:

1. National Highway System (Interstate) (NHSI)

2. National Highway System (Non-Interstate) (NHS) (selected segments of both federal and state highways, US & ND)

3. Other federal and state highways (US & ND)

4. Regional highways - portions of federal and state highways located within corporate limits of the state's 13 major cities, Primary and Secondary.

Although not a part of the State Highway System, there also are the following streets and highways that are constructed with federal aid highway funds:

Urban system streets and highways (U)
County federal aid system (C)

The proposed rural National Highway System for North Dakota is shown in Figure I-04.01.01. All other highways on the above mentioned systems, except for the county system, are shown in Figures I-04.01.02 through I-04.01.14. These are the urban program maps for the 13 largest cities in North Dakota. These figures are available in hard copy from the Mapping Section in the Planning and Programming Division.

Figure I-04.01.01 Proposed Rural NHS for North Dakota

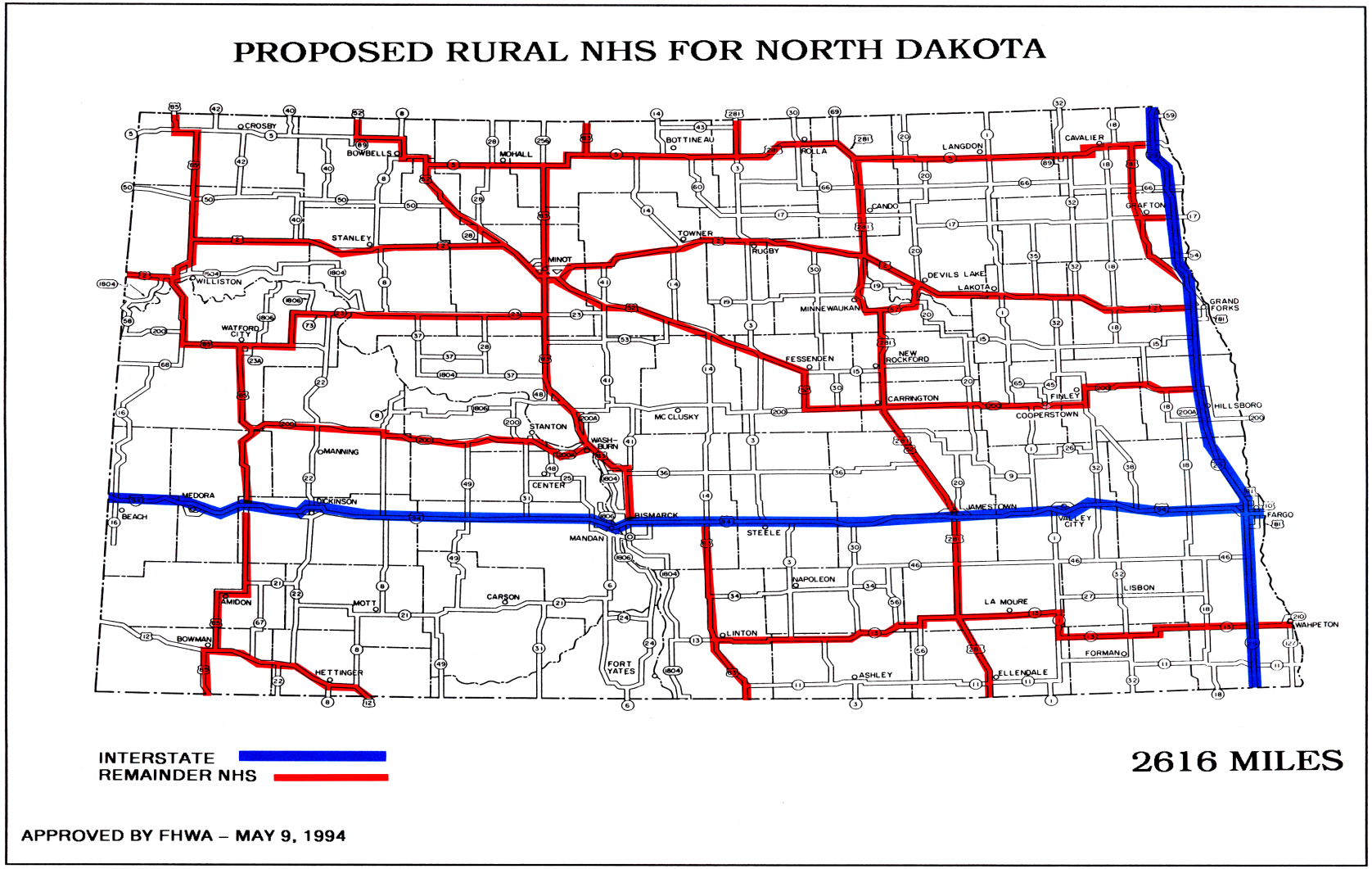


Figure I-04.01.02 Bismarck

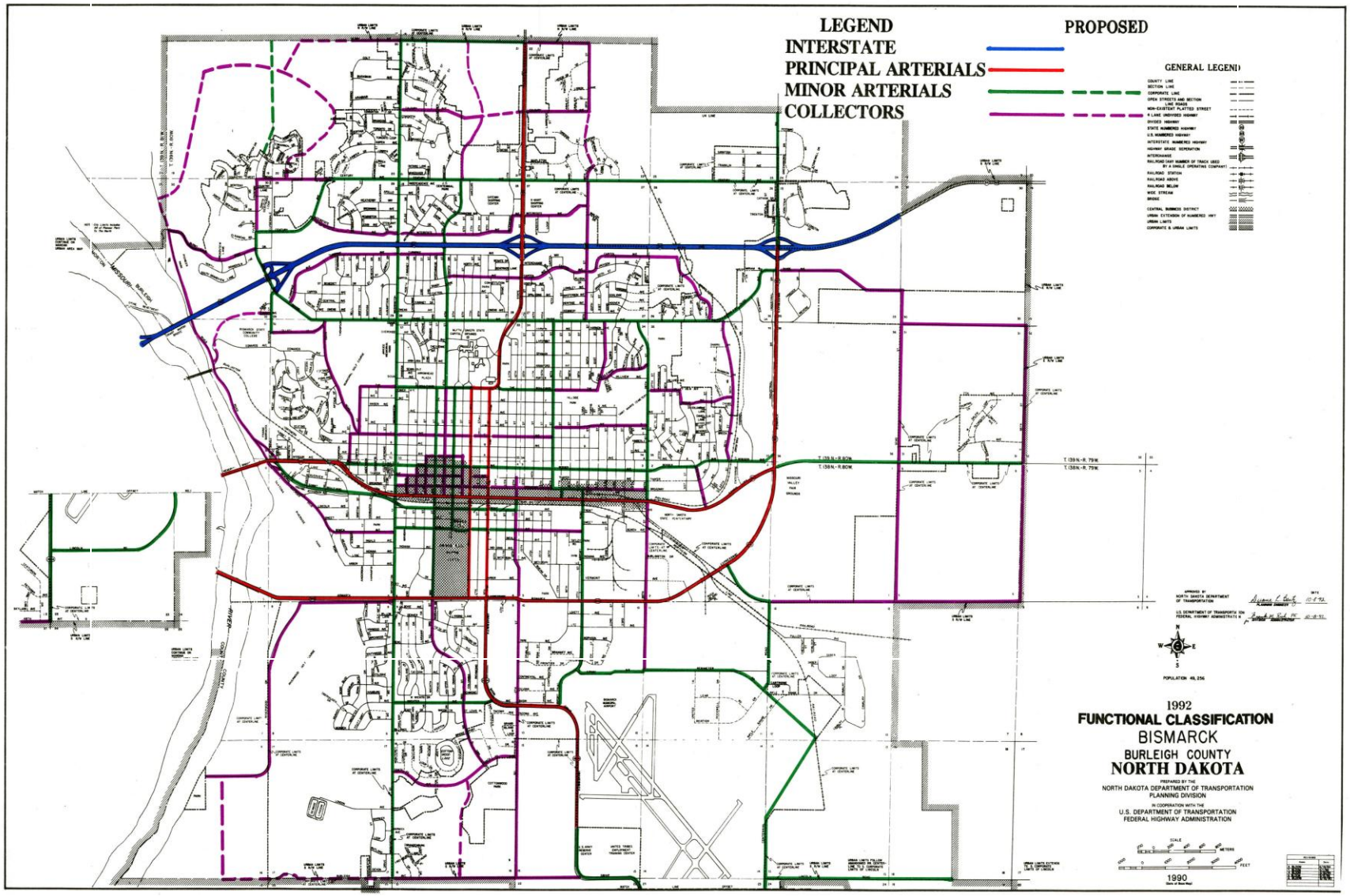


Figure I-04.01.03 Devils Lake

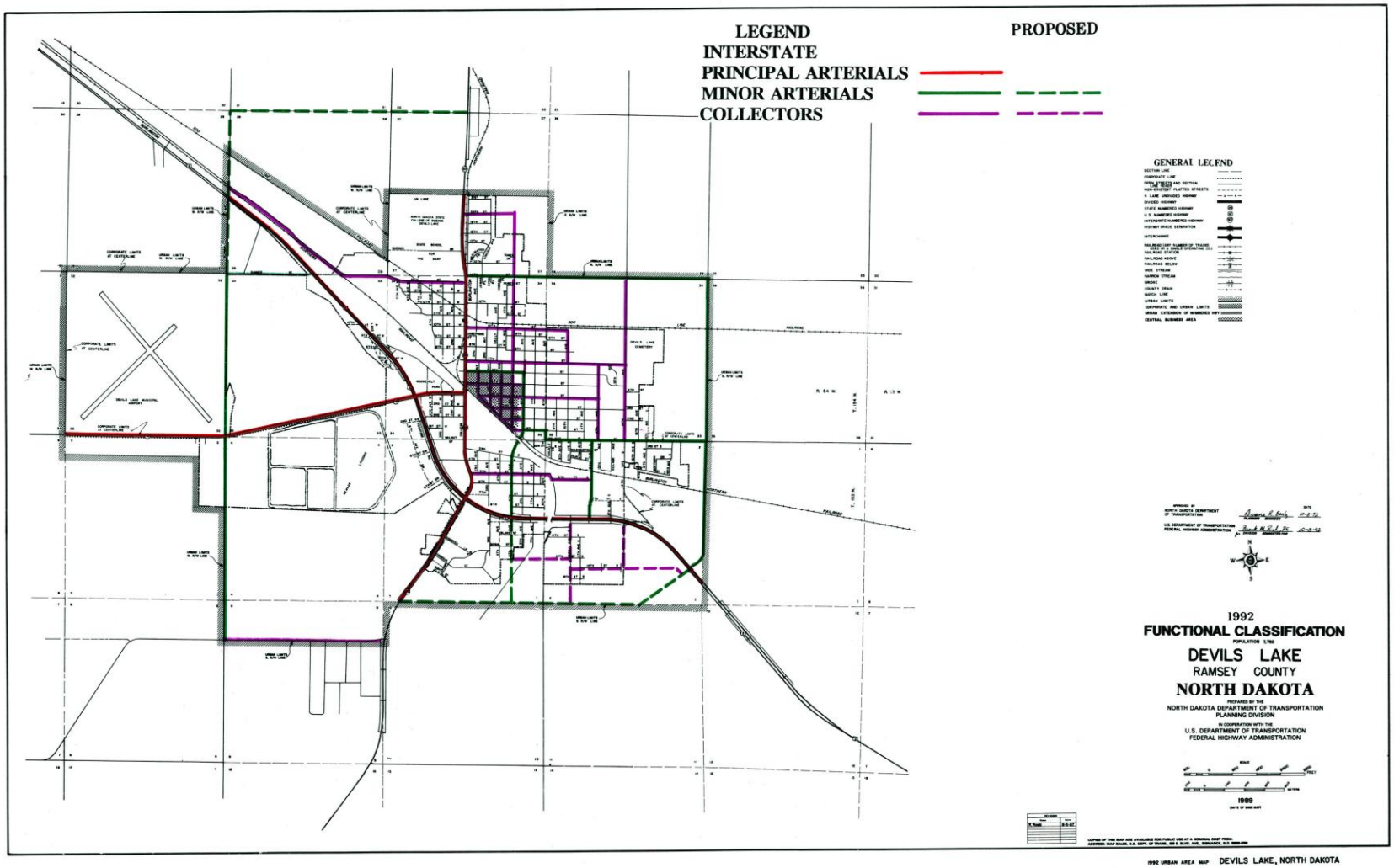


Figure I-04.01.04 Dickinson

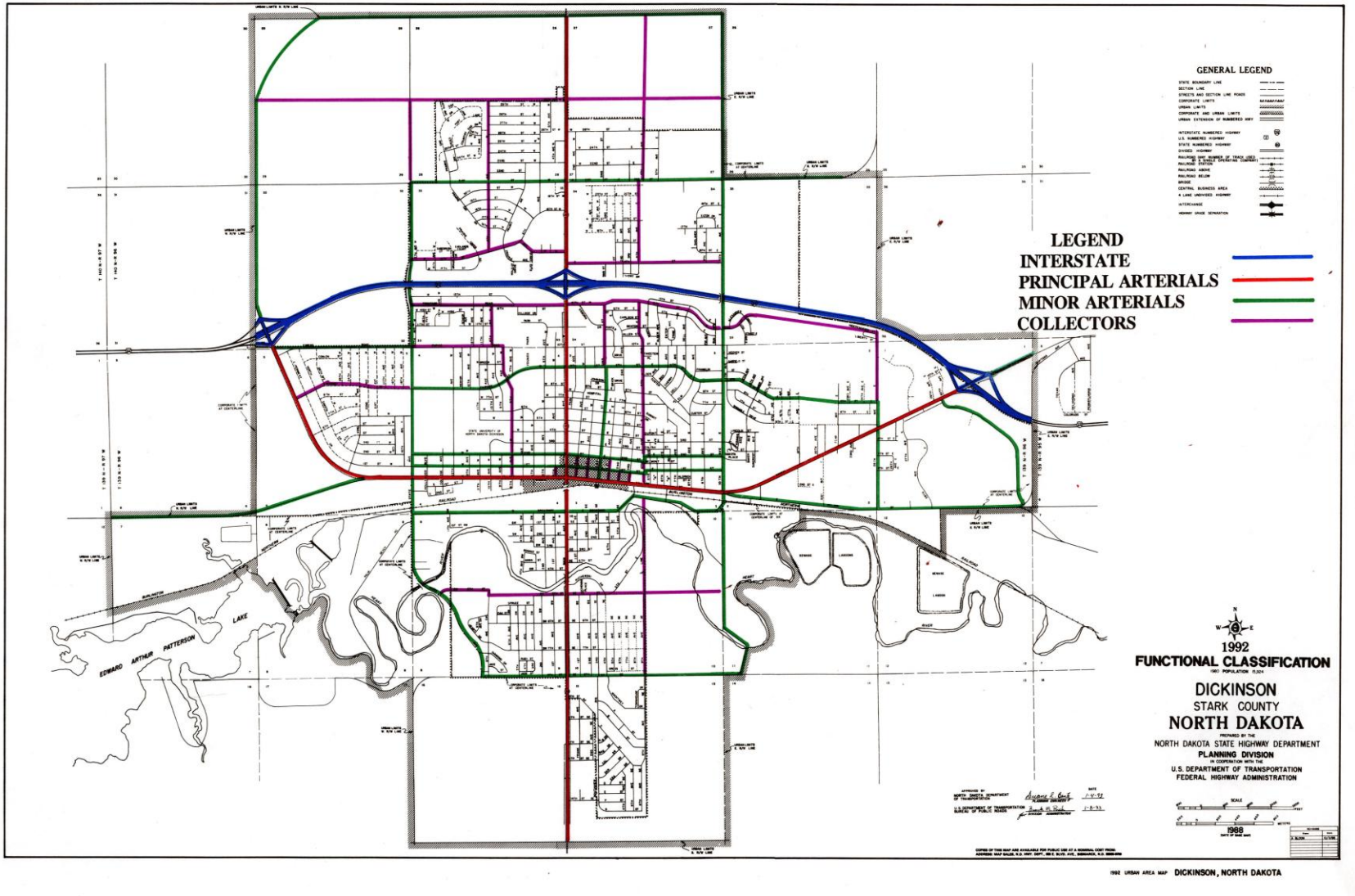


Figure I-04.01.05 Fargo

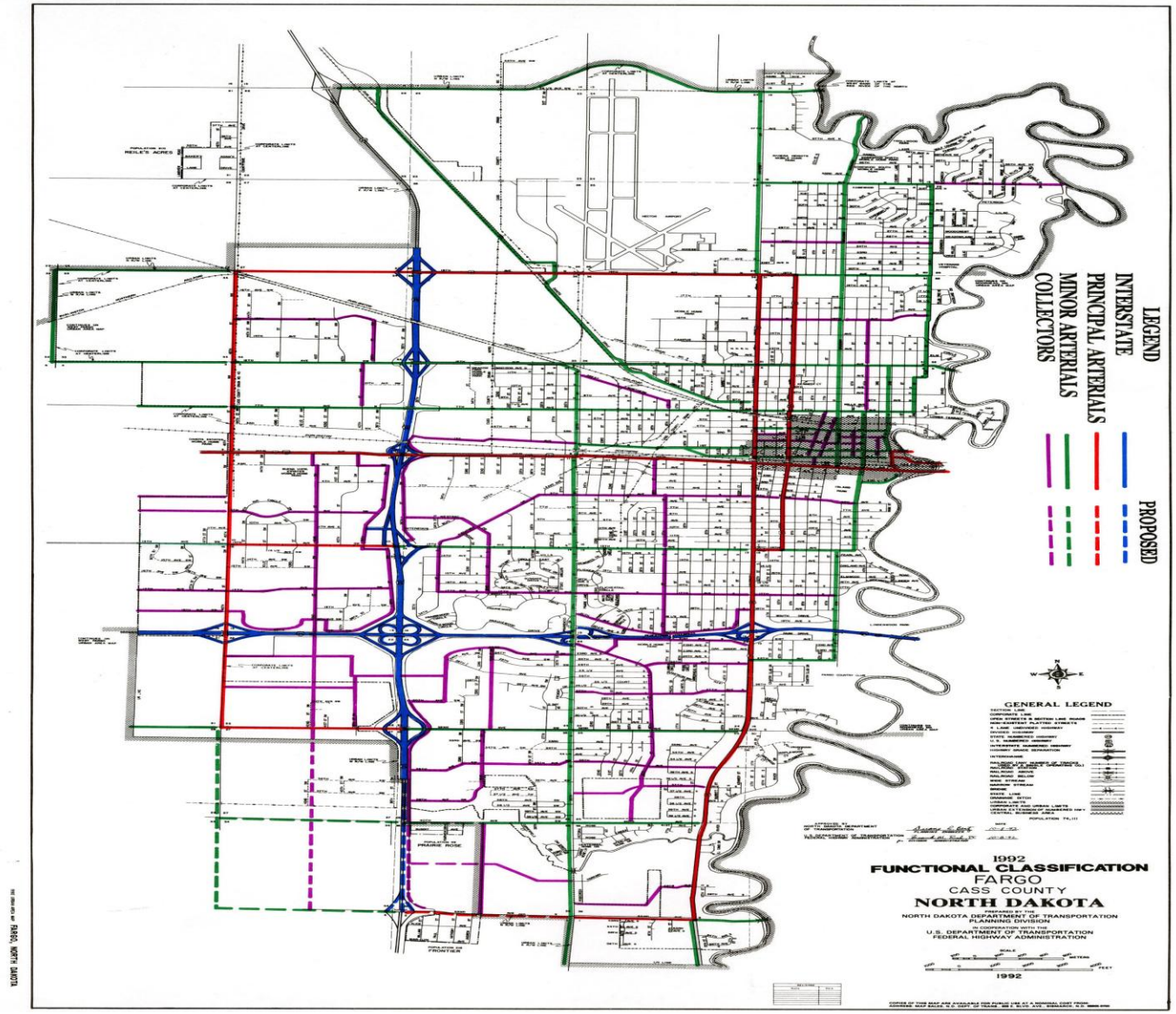


Figure I-04.01.06 Grafton

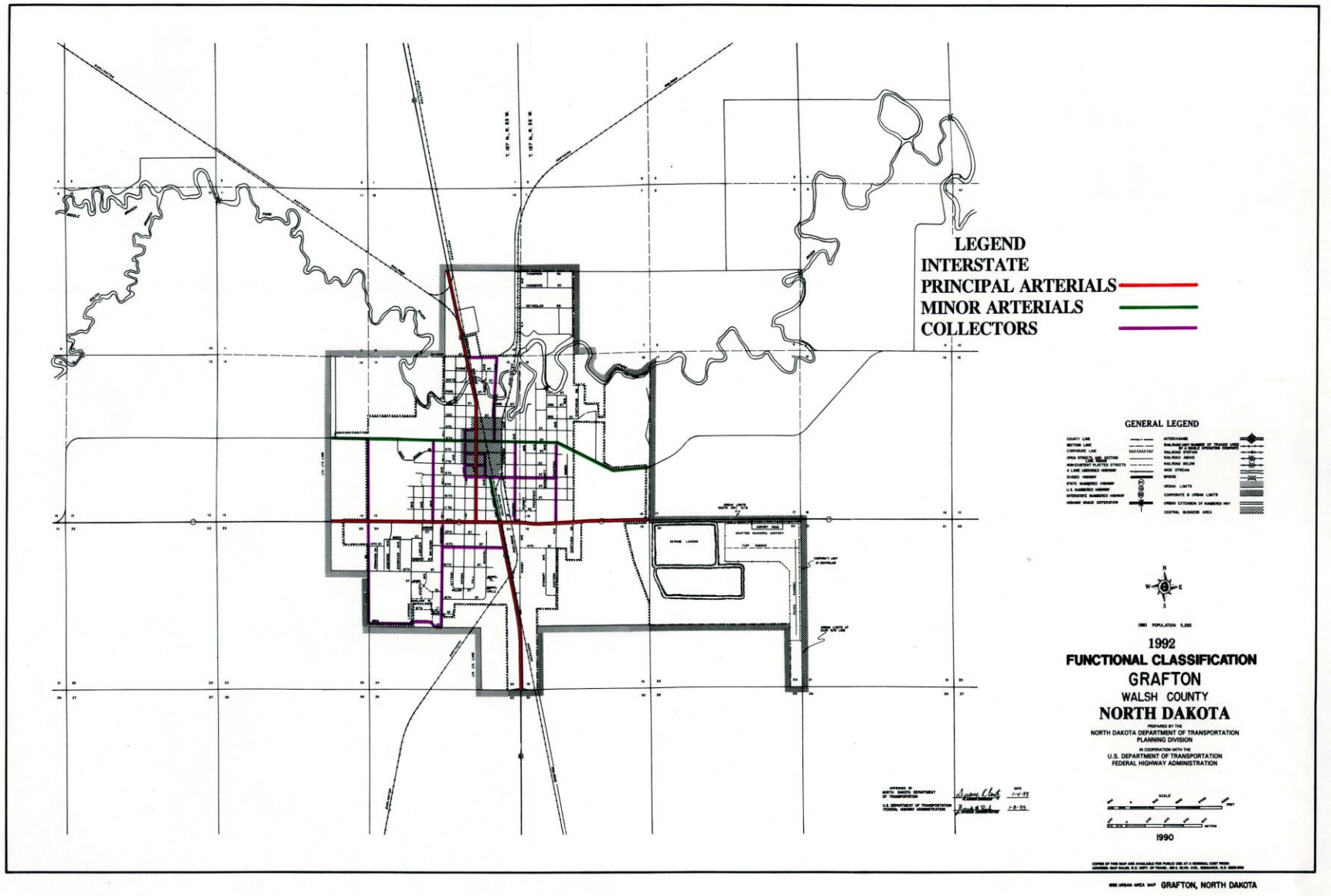


Figure I-04.01.07 Grand Forks

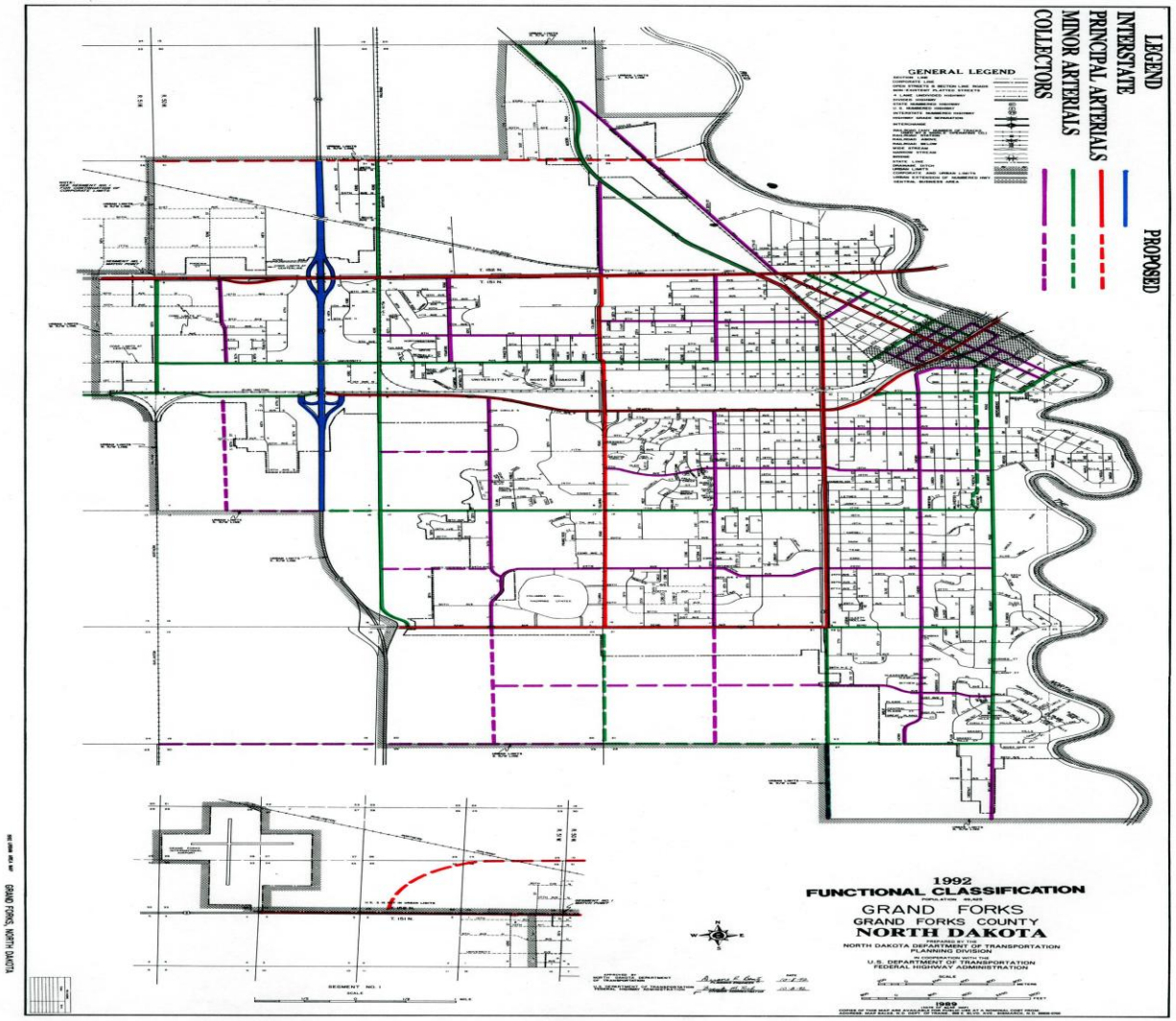


Figure I-04.01.08 Jamestown

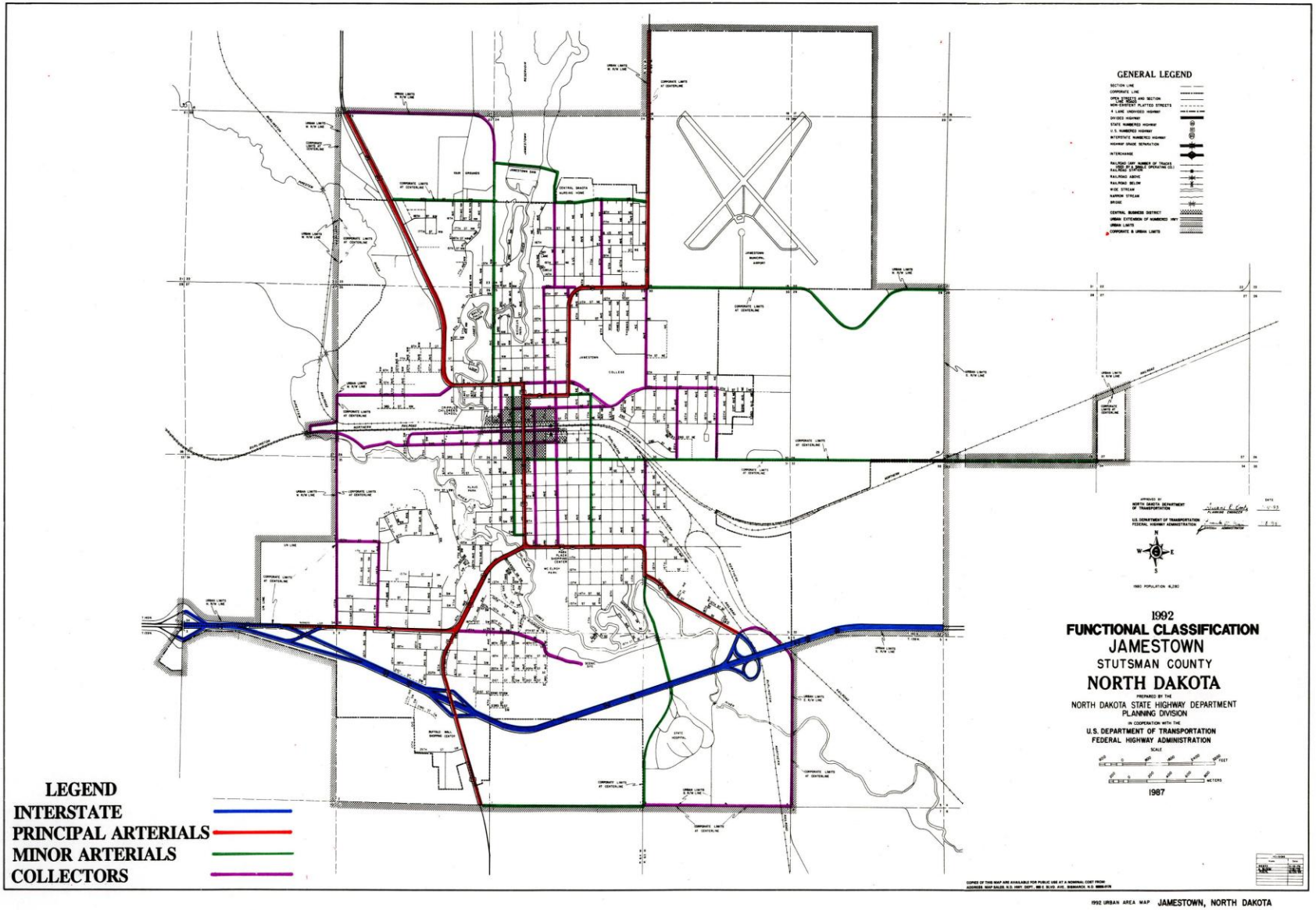


Figure I-04.01.09 Mandan

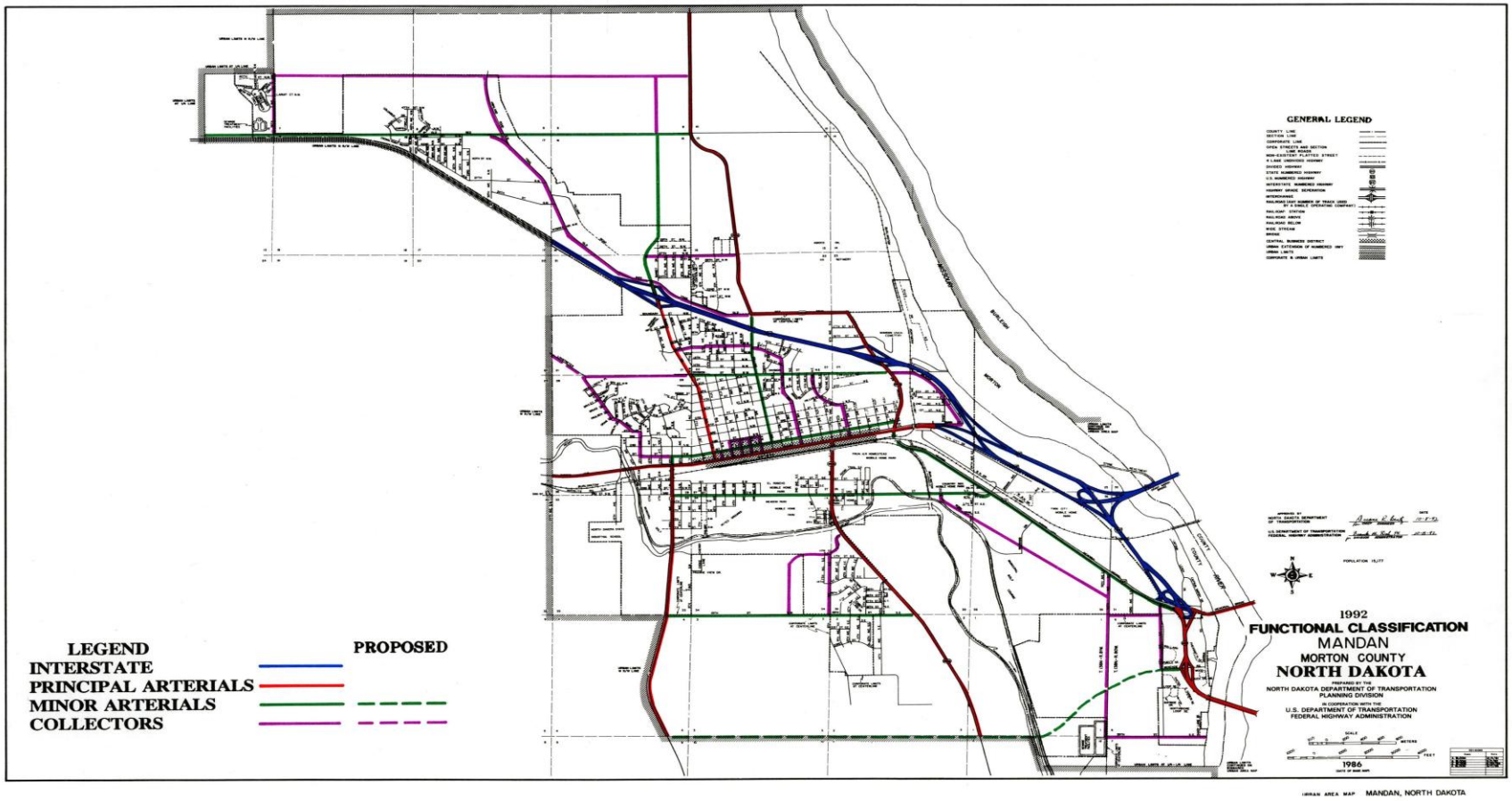


Figure I-04.01.10 Minot

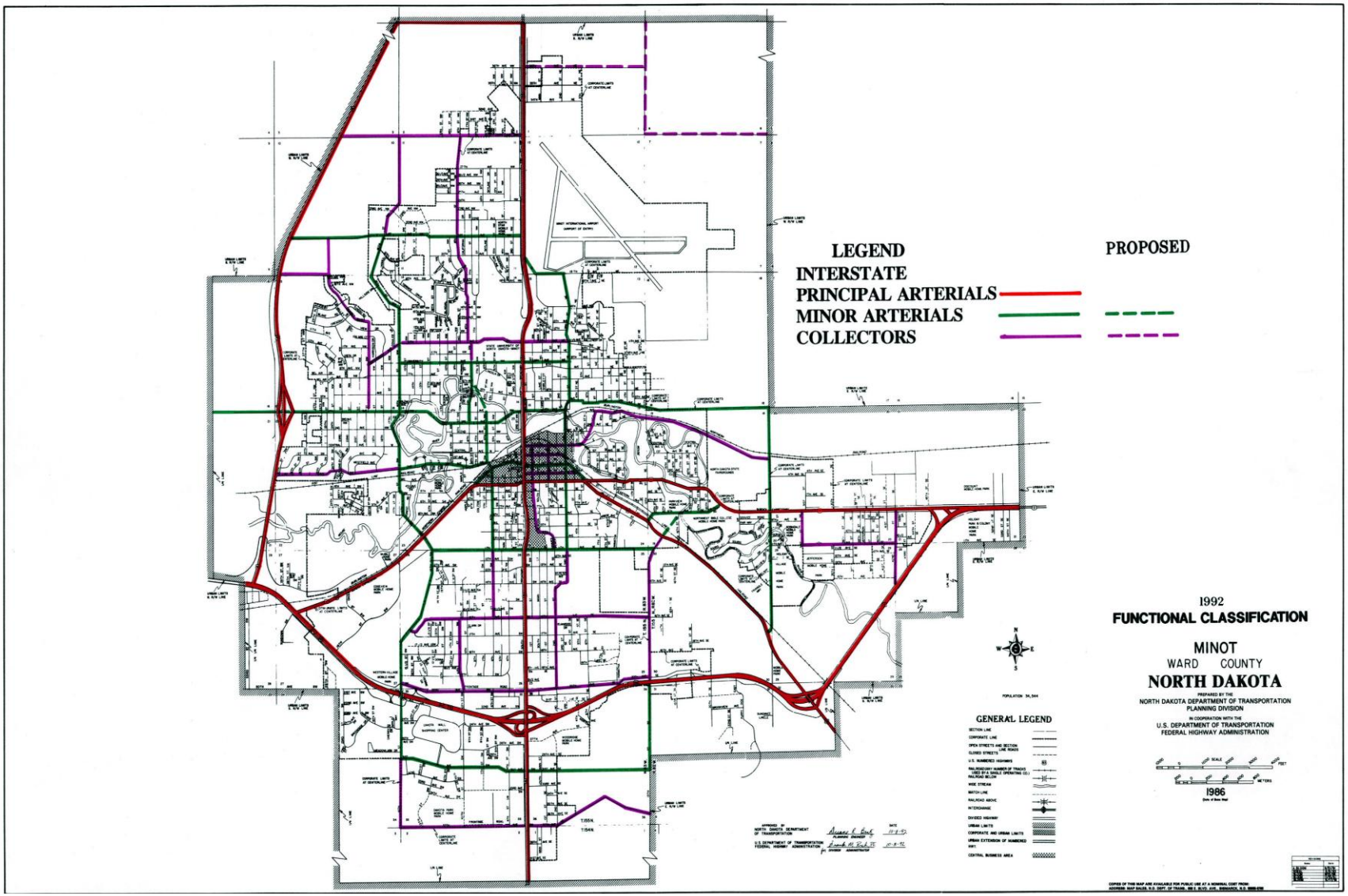


Figure I-04.01.11 Valley City

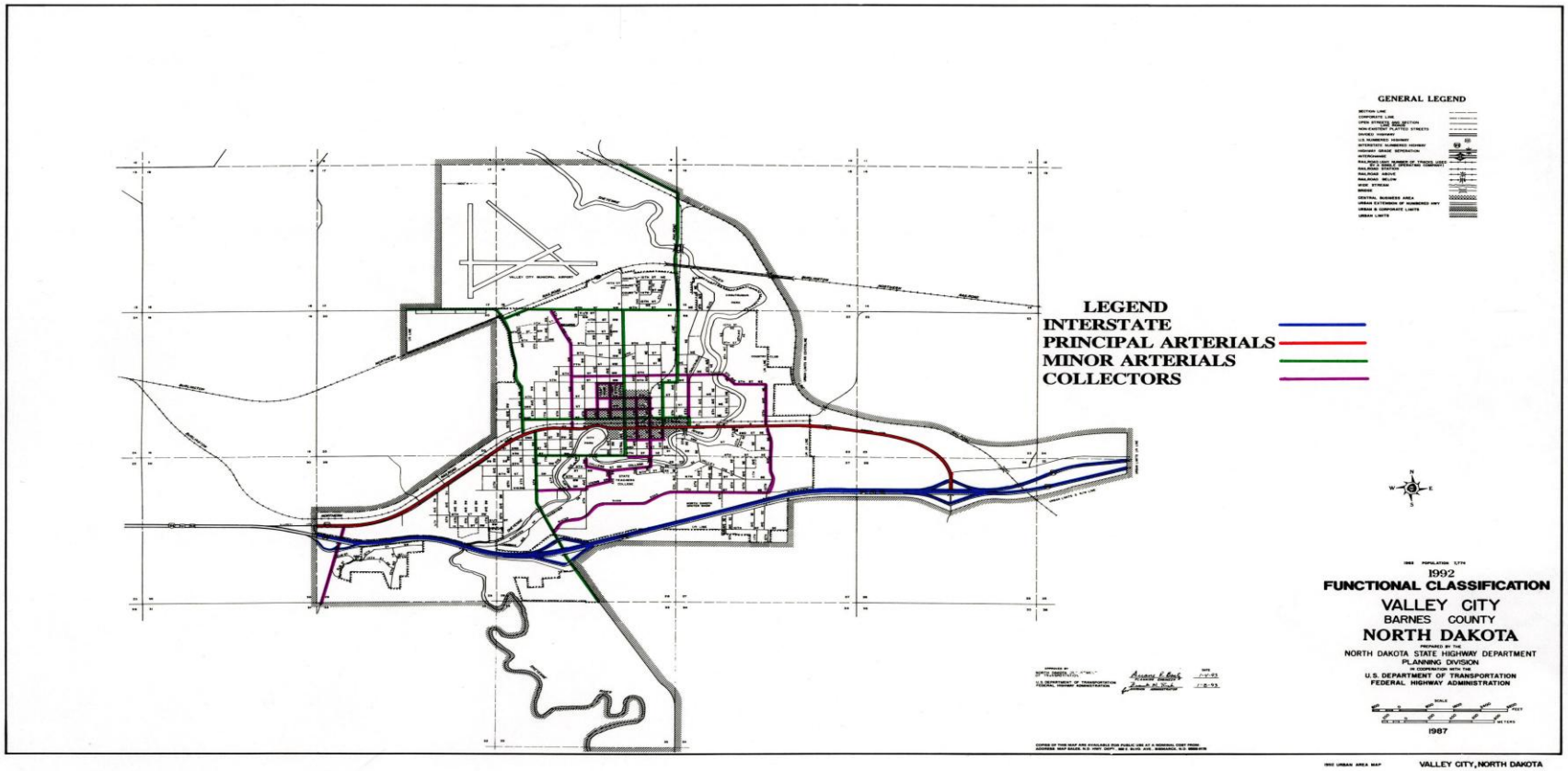


Figure I-04.01.12 Wahpeton

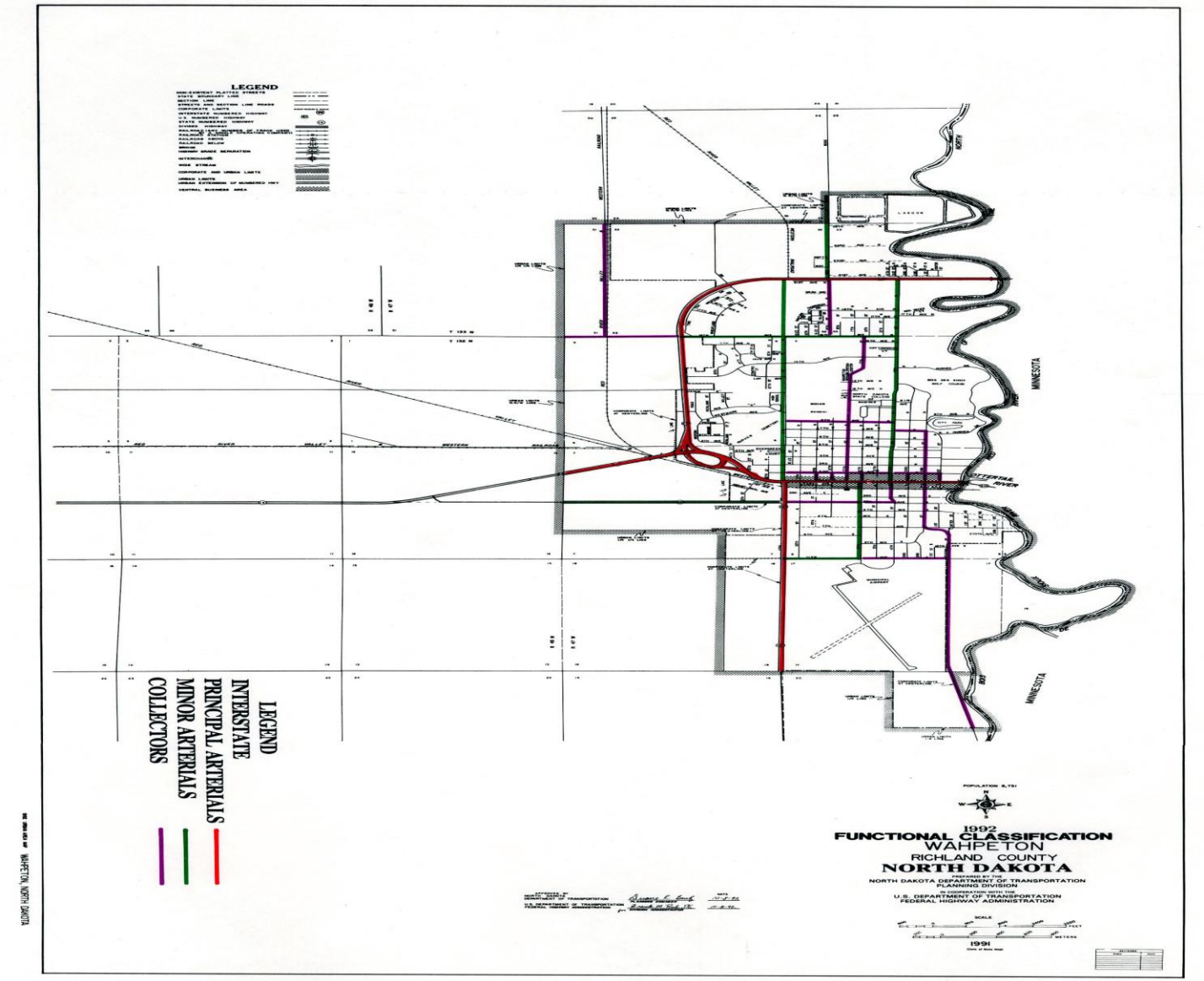


Figure I-04.01.13 West Fargo

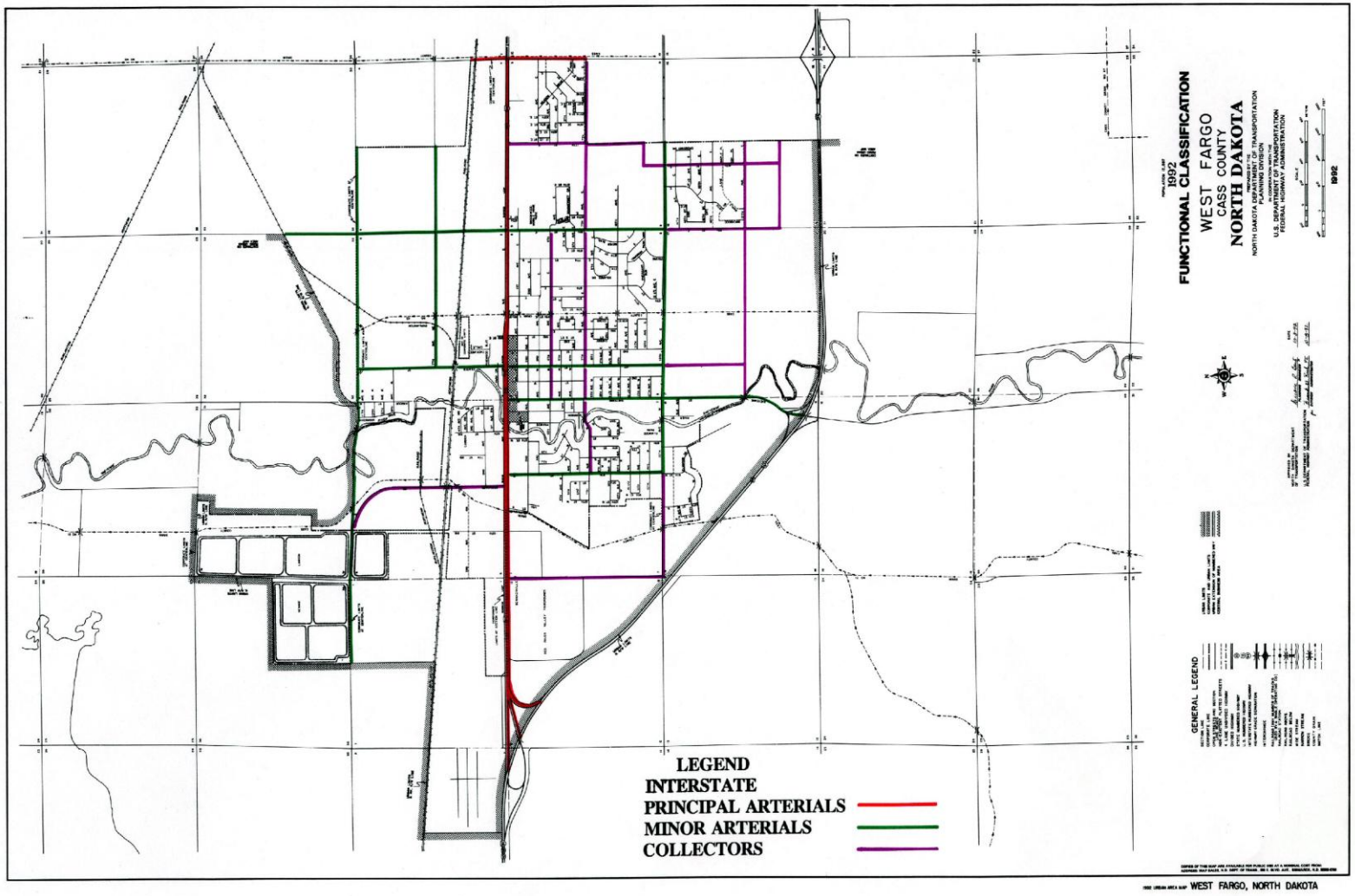
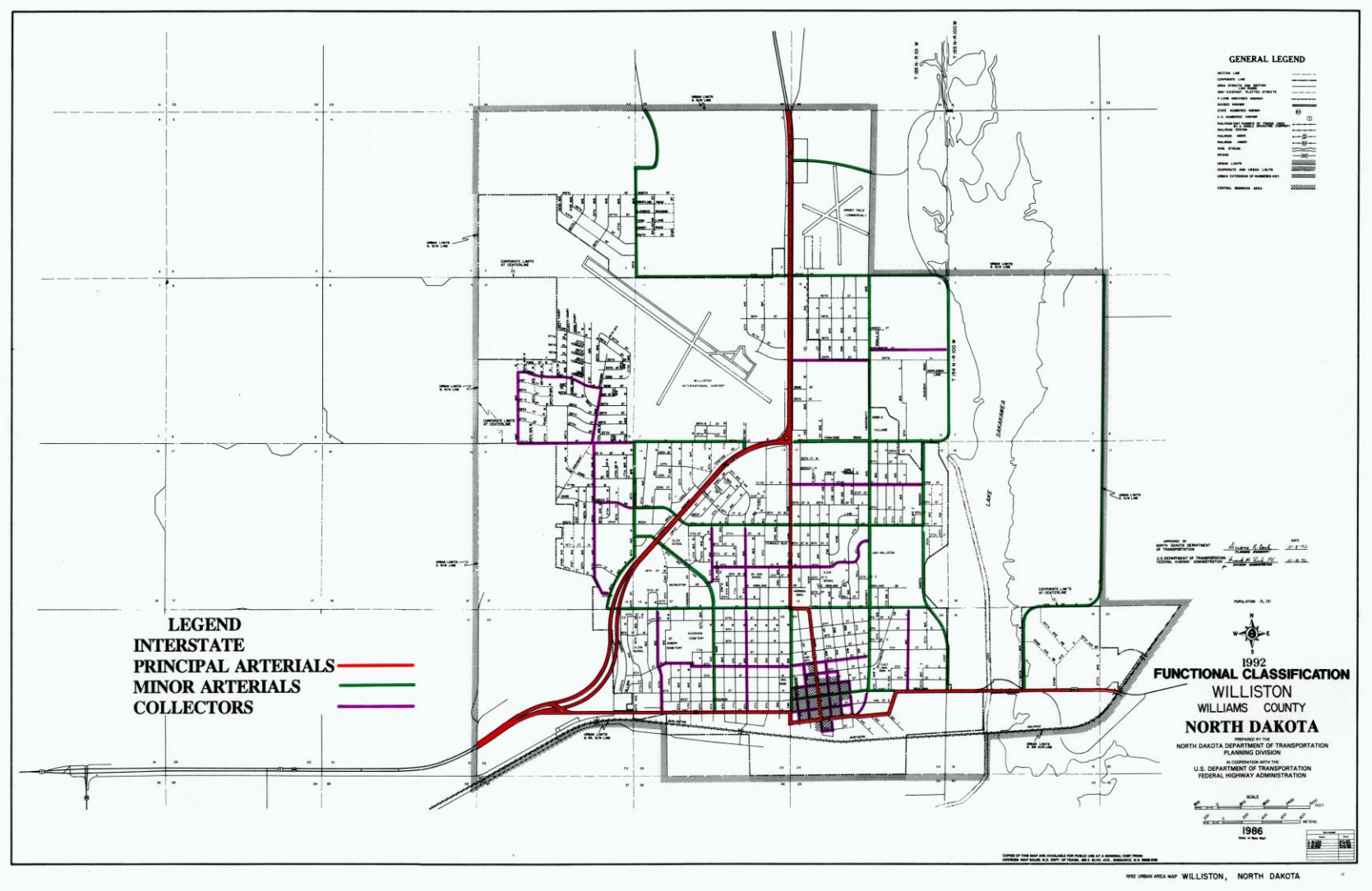


Figure I-04.01.14 Williston



I-04.02 State Highway Performance Classification

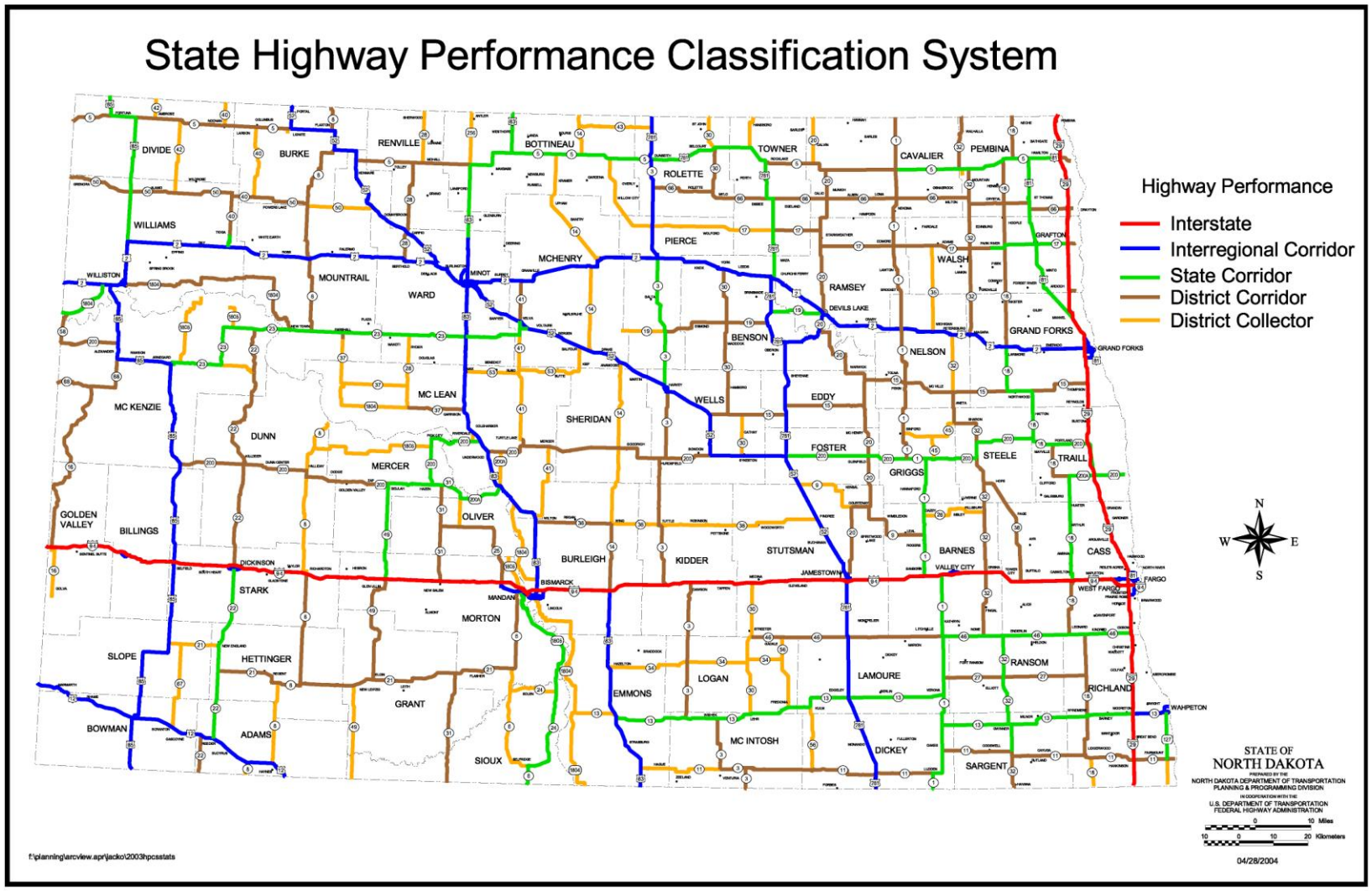
NDDOT has also classified all of the rural state highways into the following performance classifications:

Rural Interstate
Interregional
State Corridor
District Corridor
District Collector

The highways in the above classifications are shown on the map of the State Highway Performance Classification in Figure I-04.02 (available in hard copy from Planning and Programming or on the web at http://www.dot.nd.gov/, click "Business", then "Highway Performance Classification System" under Planning and Programming Division. The performance classifications are defined in more detail in this section on the following pages.

Functional classifications of roadways are located in the 2003 Functional Highway Classification County Maps which can be obtained as hard copies from the Mapping Section.

Figure I-04.02 State Highway Performance Classification



I-04.02.01 Rural Interstate System

DESCRIPTION – The Rural Interstate System consists of highways that function as Principal Arterials and do not provide direct land access. Maintaining a high degree of reliability and mobility on these highways is critical since they support and promote international, national, regional and statewide trade and economic activity. The state's Rural Interstate highways also comprise portions of other national and regional priority highway systems. Commodity, freight, and passenger movements on these highways are primarily long-distance, interstate and intrastate traffic.

Rural Interstate highways are multiple-lane (usually four) facilities and have fully controlled access. The Rural Interstate System goal is to be free of height restrictions and load limits are restricted by legal weights. Bridges and overhead structures provide for the unrestricted movement of legal loads. Accommodating all forms of traffic is a priority. Ride and distress scores are generally in the good to excellent categories. Only intermittent stretches of road are in the poor category.

High volumes of passenger vehicles and trucks, as well as a high percentage of trucks, are relatively consistent year round. Travel speeds average 65 to 70 miles per hour. Rural Interstates demonstrate a high degree of safety with crash rates below the statewide average.

PERFORMANCE GUIDELINES

Load Restrictions - Year round load limits are restricted by legal weights loads (80,000 lbs.)

Design Characteristics - Refer to the NDDOT Design Manual Section I-06.03 *Design Guidelines* for design criteria.

Ride/Distress - Strive to maintain an excellent Ride on all segments. A segment with Ride scores in the lower range of the fair category should be considered for a project.

Bridge Sufficiency - Bridges and overhead structures provide for the unrestricted movement of legal loads.

Access Control - Full access control

Safety – New or reconstruction projects will include all necessary safety improvements. The Rural Interstate System has truck pullouts, rest areas, and separated rail crossings. Crash rates are below the statewide average**.**

Operational Reliability - The Rural Interstate System is highly reliable with only isolated or limited closures due to seasonal occurrences such as blizzards, spring flooding, excessive rainfall, construction, or surface blowups. These highways are the first priority to receive weather-related maintenance.

SUPPLEMENTAL COMMENTS – Potential projects will be identified when ride or distress scores fall below the fair category, a segment has a load restriction, or horizontal clearance is less than 16'6". Potential bridge projects will be identified when a structure has an operating rating less than HS 20, less than 16' vertical clearance, or is eligible for BRR funding clearance.

Projects will not be initiated solely on the basis of a segment having poor ride or distress scores, inadequate horizontal clearance, or load restrictions. Bridge projects will not be initiated solely on the basis of a bridge having inadequate vertical clearance or less than an operating rating of HS 20.

I-04.02.02 Interregional System

DESCRIPTION - The Interregional System consists of highways that function as Principal Arterials and provide a low degree of land access. Maintaining a high degree of reliability and mobility on these highways is critical since they support and promote international, national, regional and state trade and economic activity. Some segments of the state's interregional system comprise portions of other national and regional priority systems. Passenger, commodity and freight movements on these highways are primarily long-distance, interstate and intrastate traffic.

Interregional System highways are either two-lane or multiple lane facilities. Segments or specific locations may have partially controlled access. Not more than five access points (including section line accesses) per mile per side are desirable. The Interregional System goal is to be free of height restrictions, load limits are restricted by legal weights, and have limited passing restrictions. Bridges and overhead structures provide for the unrestricted movement of legal loads. Accommodating truck traffic is a priority. Ride and distress scores are generally in the good to excellent categories. A normal percentage of mileage is in the fair category and only limited or intermittent stretches of road are in the poor category.

Moderate to high volumes of passenger vehicles and trucks, as well as a high percentage of trucks, are relatively consistent year round. Daytime travel speeds average 60 to 65 miles per hour. The Interregional System demonstrates a high degree of safety with crash rates below the statewide average.

PERFORMANCE GUIDELINES

Load Restrictions - Year round load limits are restricted by legal weights (105,500 lbs.)

Design Characteristics - Refer to the NDDOT Design Manual Section I-06.03 *Design Guidelines* for design criteria.

Ride/Distress - Strive to maintain an excellent Ride on all segments. A segment with Ride scores below the fair category should be considered for a project.

Bridge Sufficiency - Bridges and overhead structures provide for the unrestricted movement of legal loads.

Access Control - Partial access control may be acquired near urban areas, some rural communities or major intersections. Not more than five approaches per mile per side (with opposite side alignment preferred) are desirable. Access control should be presented as a decision item in the Project Concept Report.

Safety – New or reconstruction projects will include all necessary safety improvements. The Interregional System has truck pullouts, rest areas, and separated or signalized at-grade rail crossings. Crash rates are below the statewide average.

Operational Reliability - The Interregional System is highly reliable with only isolated or limited closures due to seasonal occurrences such as blizzards, spring flooding, excessive rainfall, construction or surface blowups. After the Interstate System, these highways are the first priority to receive weather-related maintenance.

SUPPLEMENTAL COMMENTS

Potential projects will be identified when ride or distress scores fall below the fair category or a segment has a load restriction. Potential bridge projects will be identified when a structure has an operating rating less than HS 20, less than 16' vertical clearance, or is eligible for BRR funding.

Projects will not be initiated solely on the basis of a segment having poor ride or distress scores, inadequate horizontal clearance, or load restrictions. Bridge projects will not be initiated solely on the basis of a bridge having inadequate vertical clearance or less than an operating rating of HS 20.

I-04.02.03 State Corridor

DESCRIPTION – State Corridors are highways that function as Principal Arterials and provide a low or moderate degree of land access. Maintaining a moderately high degree of reliability and mobility on these highways is critical since they support the movement of agricultural commodities, freight, and manufactured products within the state. State Corridors provide connectivity between District Collectors and District Corridors, and the Rural Interstate and Interregional Systems. Passenger, commodity and freight movements on these highways are primarily medium-distance intrastate traffic.

State Corridors are typically 2-lane facilities and have segments or locations with partially controlled access. Not more than five access points (including section line accesses) per mile per side are desirable. These highways have either paved or aggregate shoulders, some segments may have limited passing zone restrictions, and load limits are restricted by legal weights. Bridges and overhead structures provide for the unrestricted movement of legal loads. Ride and distress scores are generally in the good category.

Moderately high volumes of passenger vehicles and trucks are relatively consistent year round. Daytime travel speeds average 60 to 65 miles per hour. State Corridors demonstrate a moderately high degree of safety with crash rates less than the statewide average.

PERFORMANCE GUIDELINES

Load Restrictions - Load limits are restricted by legal weights.

Design Characteristics - Two-lane highways with no height or width restrictions. Refer to the NDDOT Design Manual Section I-06.03 *Design Guidelines* for design criteria. The shoulders of a State Corridor segment that is on the National Highway System (NHS) and has more than 2000 AADT will typically be paved. The shoulders on non-NHS State Corridor segments, or NHS segments with less that 2000 AADT will typically be aggregate.

Ride/Distress - Strive to maintain a good to excellent Ride on all segments.

Bridge Sufficiency - Bridge structures provide for the unrestricted movement of legal loads.

Access Control - Partial access control may be acquired near urban areas, some rural communities or major intersections. Not more than five approaches per mile per side (with opposite side alignment preferred) are desirable. Access control should be presented as a decision item in the Project Concept Report.

Safety – New or reconstruction projects will include all necessary safety improvements. State Corridors have signalized at-grade rail crossings. Crash rates that are less than the statewide average**.**

Operational Reliability - State Corridors are very reliable, with only occasional closures due to seasonal occurrences such as blizzards, spring flooding, excessive rainfall, construction or surface failures. Weather related maintenance on these highways is a priority after the Rural Interstate and Interregional Systems.

SUPPLEMENTAL GEOMETRIC/CONDITION COMMENTS
Potential projects will be identified when ride or distress scores fall into the poor category, geometric features fall below current design guidelines or a segment has less than a 8-ton load restriction. Potential bridge projects will be identified when a structure has an operating rating less than HS 20, less than 16' vertical clearance, or is eligible for BRR funding.

Projects will not be initiated solely on the basis of a segment having poor ride or distress scores, or inadequate geometric design features. Bridge projects will not be initiated solely on the basis of a bridge having inadequate vertical clearance or less than an operating rating of HS 20.

I-04.02.04 District Corridor

DESCRIPTION – District Corridors are highways that function primarily as Major Collectors. A few select segments may function as Minor Arterials. State Corridors provide a balance between land access and mobility. Maintaining a moderate degree of reliability and mobility on these highways is desirable. These highways provide connectivity between District Collectors and the remainder of the highway system. Passenger, commodity and freight movements on these highways are primarily short to medium distance intrastate traffic.

District Corridors are two lane facilities. Generally, access control is not purchased. Not more than five approaches (including section line accesses) per mile per side are desirable. These highways have narrow paved or gravel shoulders, segments with restricted passing zones, and 8-ton, or 7-ton seasonal load limits. Bridge structures provide for the unrestricted movement of legal loads. Ride and distress scores are generally in the fair and good categories. A slightly higher percentage of Ride and Distress mileage in the poor category is acceptable.

Moderate volumes of traffic are relatively consistent year round. Occasional increases in seasonal traffic volumes and truck movements occur. Daytime travel speeds average 55 to 65 miles per hour. District Corridors are safe highways with crash rates at or near the

statewide average.

PERFORMANCE GUIDELINES

Load Restrictions - 8-Ton load restrictions for District Corridors part of the NHS, and 7-Ton load restrictions (spring only) for non-NHS highway segments.

Design Characteristics - Two-lane highways, some height or width restrictions may exist. Refer to the NDDOT Design Manual Section I-06.03 *Design Guidelines* for design criteria. The shoulders of a District Corridor segment that is on the National Highway System (NHS) and has more than 2000 AADT will typically be paved. The shoulders on District Corridor segments off the NHS, or NHS segments with less than 2000 AADT will typically be aggregate.

Ride/Distress - Strive to maintain a good Ride on all segments.

Bridge Sufficiency - Bridge structures provide for the unrestricted movement of typical legal loads.

Access Control - Generally, access control is not purchased. Not more than five approaches per mile per side (with opposite side alignment preferred) are desirable.

Safety – New or reconstruction projects will include all necessary safety improvements. Crash rates are at or near the statewide average; signalized at-grade mainline crossings or passive signing at-grade branch line crossings.

Operational Reliability - District Corridors are reliable, however periodic closures due to seasonal occurrences such as blizzards, spring flooding, excessive rainfall, construction or surface failures may be experienced. Weather related maintenance on these highways is a priority after the Rural Interstate System, Interregional System and State Corridors.

SUPPLEMENTAL COMMENTS

Potential projects will be identified when ride or distress scores fall into the poor category, or a segment on the NHS has less than an 8-ton load restriction or a non-NHS segment has less than a 7-ton load restriction. Potential bridge projects will be identified when a structure has an operating rating less than HS 20, less than 16' vertical clearance, or is eligible for BRR funding.

Projects will not be initiated solely on the basis of a segment having poor ride or distress scores, or inadequate load restrictions. Bridge projects will not be initiated solely on the basis of a bridge having inadequate vertical clearance or less than an operating rating of HS 20.

I-04.02.05 District Collector

DESCRIPTION – District Collectors are highways that function as major collectors and provide a moderate to high degree of land access. Maintaining reliability and mobility on these highways is a lower priority. These highways are generally short routes that provide connectivity to the higher road level systems. Passenger, commodity and freight movements on these highways are primarily short distance, local, farm to market traffic.

District Collectors are two lane facilities. Generally, access control is not purchased and is limited to not more than five approaches (with opposite side alignment preferred) per mile per side are desirable. These highways generally have no shoulders. Segments with restricted passing zones exist. Seven-ton or 6-ton seasonal load limits are normal although some segments may have year round load restrictions. Bridge structures provide for the movement of typical legal loads. Some structures have load, height, and width restrictions. Ride and distress scores are generally in the fair category. A higher percentage of mileage is in the poor category is acceptable.

Low volumes of traffic are normal year round. Small increases in truck movements may occur during spring planting and fall harvest periods. Daytime travel speeds average 50 to 55 miles per hour. District Collectors are moderately safe highways with crash rates near the statewide average.

PERFORMANCE GUIDELINES

Load Restrictions - 6-ton (spring only)

Design Characteristics - Two-lane highways, some height or width restrictions are acceptable, shoulders are aggregate or no shoulders. Refer to the NDDOT Design Manual Section I-06.03 *Design Guidelines* for design criteria.

Ride/Distress - Strive to maintain a good Ride on all segments.

Bridge Sufficiency - Bridges provide adequate hydraulics and the movement of typical legal loads. Some structures may have load, height and/or width restrictions.

Access Control - Access control is not purchased. Not more than five approaches per mile per side (with opposite side alignment preferred) is desirable.

Safety – New or reconstruction projects will include all necessary safety improvements. Crashes rates near the statewide average, signalized at-grade rail mainline crossings, passive signing at branch line at-grade crossings.

Operational Reliability - District Collectors are moderately reliable, however periodic closures due to seasonal occurrences such as blizzards, spring flooding, excessive rainfall, construction or surface failures may be experienced. These highways are generally the lowest priority for weather related maintenance.

SUPPLEMENTAL GEOMETRIC/CONDITION COMMENTS

Potential projects will be identified when ride or distress scores fall into the poor category, or a segment has less than a 6-ton load restriction. Potential bridge projects will be identified when a structure has an operating rating less than HS 15, less than 16' vertical clearance, or is eligible for BRR funding.

Projects will not be initiated solely on the basis of a segment having poor ride or distress scores, inadequate load restrictions, or not meeting current AASHTO geometric design guidelines. Bridge projects will not be initiated solely on the basis of a bridge having inadequate vertical clearance or less than an operating rating of HS 20.